

AN 09/612,418
Page 2

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Pending Claims

1. (Currently Amended) A detection article comprising:

at least one polymeric fluid control film layer including an acquisition zone, a detection zone and at least one microstructured major surface including a plurality of microchannels therein, wherein the microchannels are adapted to draw a fluid sample into the acquisition zone through openings in the microchannels, and to provide fluid flow of the fluid sample from the acquisition zone to the detection zone along the microchannels by spontaneous fluid transport and without any aid from any structures additional to the microchannels, the detection zone including at least one detection element that facilitates detection of a characteristic of the fluid sample within at least one microchannel of the detection zone.

2. (Original) The detection article of claim 1, wherein at least one microchannel is comprised of sidewalls that are configured to define the microchannel, and the sidewalls extend continuously from the opening of that microchannel and through the acquisition and detection zones of the detection article with the detection element supported within a continuous microchannel.

3. (Original) The detection article of claim 2, further comprising a plurality of microchannels that are each comprised of sidewalls that extend from the opening in that microchannel through the acquisition and detection zones to define a plurality of continuous microchannels that provide discrete fluid transfer paths from one another.

AN 09/612,418
Page 3

4. (Original) The detection article of claim 3, wherein one of the plurality of continuous microchannels supports a different detection element from a detection element that is supported within another of the plurality of continuous microchannels.
5. (Original) The detection article of claim 1, further comprising an intermediate zone extending between the acquisition zone and the detection zone.
6. (Original) The detection article of claim 1, wherein at least a portion of the film layer is hydrophilic.
7. (Original) The detection article of claim 6, wherein the hydrophilic portion of the film layer comprises a hydrophilic material.
8. (Original) The detection article of claim 7, wherein the hydrophilic material is poly(vinyl alcohol).
9. (Original) The detection article of claim 7, wherein the hydrophilic material comprises a less hydrophilic material combined with an additive to increase hydrophilicity.
- 10.-12. (Cancelled)
13. (Original) The detection article of claim 1, wherein the microstructured surface is configured to modify a surface energy of the surface to improve spontaneous fluid transport into and along the microchannels.
- 14.-38. (Cancelled)
39. (Original) The detection article of claim 1, wherein the at least one detection element is associated with at least one microchannel of the film layer.
40. (Original) The detection article of claim 39, wherein the at least one detection element is positioned within one of the plurality of microchannels.

AN 09/612,418
Page 4

41. (Original) The detection article of claim 39, wherein the at least one detection element is positioned adjacent one of the plurality of microchannels.
42. (Cancelled)
43. (Original) The detection article of claim 1, wherein the detection zone comprises a plurality of detection elements.
44. (Previously Presented) The detection article of claim 43, wherein at least one of the plurality of detection elements is associated with each microchannel of the film layer.
45. (Original) The detection article of claim 44, wherein at least one of the plurality of detection elements is positioned within one of the plurality of microchannels.
46. (Original) The detection article of claim 44, wherein at least one of the plurality of detection elements is positioned adjacent one of the plurality of microchannels.
- 47.-48. (Cancelled)
49. (Original) The detection article of claim 43, wherein at least one of the plurality of detection elements is different than at least one other of the detection elements.
50. (Original) The detection article of claim 49, wherein each detection element is different than all other detection elements.
- 51.-52. (Cancelled)
53. (Original) The detection article of claim 43, wherein at least one of the plurality of detection elements comprises an assay reagent.
54. (Original) The detection article of claim 53, wherein the assay reagent is chosen from the group consisting of fluorogenic indicators, chromogenic indicators, electrochemical reagents, agglutination reagents, analyte specific binding agents, amplification agents, enzymes, catalysts,

AN 09/612,418
Page 5

photochromic agents, dielectric compositions, analyte specific reporters, enzyme-linked antibody probes, DNA probes, RNA probes, fluorescent beads, and phosphorescent beads.

55.-59. (Cancelled)

60. (Original) The detection article of claim 1, wherein the at least one detection element comprises an assay reagent.

61. (Original) The detection article of claim 60, wherein the assay reagent is chosen from the group consisting of fluorogenic indicators, chromogenic indicators, electrochemical reagents, agglutination reagents, analyte specific binding agents, amplification agents, enzymes, catalysts, photochromic agents, dielectric compositions, analyte specific reporters, enzyme-linked antibody probes, DNA probes, RNA probes, fluorescent beads, and phosphorescent beads.

62.-71. (Cancelled)

72. (Original) The detection article of claim 1, wherein the openings in the microchannels are provided at one end of the plurality of microchannels.

73. (Original) The detection article of claim 72, wherein the microchannels are configured so as to position the openings of the microchannels across a width of the detection article.

74. (Original) The detection article of claim 72, wherein the microchannels are configured so as to position the openings of the microchannels along at least a portion of the length of the detection article.

75. (Original) The detection article of claim 1, wherein the openings in the microchannels are provided at a top surface of the microchannels.

76. (Cancelled)

AN 09/612,418
Page 6

77. (Original) The detection article of claim 1, wherein the detection zone at least partially overlaps the acquisition zone.

78.-80. (Cancelled)

81. (Original) The detection article of claim 1, wherein the microchannels are defined by sidewalls and a bottom wall between them.

82. (Original) The detection article of claim 1, wherein the microchannels are defined by sidewalls that converge together at a bottom of the microchannel.

83. (Original) The detection article of claim 1, wherein the microchannels extend continuously over the film layer.

84. (Original) The detection article of claim 1, wherein the microchannels extend from one side edge of the film layer to another side edge of the film layer.

85. (Original) The detection article of claim 1, wherein the characteristic of the fluid sample to be detected is chosen from the group consisting of color change, fluorescence, luminescence, turbidity, electrical conductivity, voltage change, light absorption, light transmission, pH, and change in physical phase.

86.-101. (Cancelled)